https://doi.org/10.26493/978-961-293-167-4.79-86

Parent awareness about the onset of febrile seizures and fever

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Abstract

Introduction: Many parents believe that a body temperature of 39.0°C is harmful, puts their child at risk, and must be reduced immediately. But fever is merely a symptom, not a disease. In fact, it is essential for a child to successfully recover from their disease. Febrile seizures, which are the most common type of convulsions among children, often raise concern among parents since they resemble epileptic seizures. It is important to raise awareness among parents about the different stages of fever, the positive and negative effects of fever, and the methods used to reduce fever. This knowledge is the key to the successful prevention and treatment of febrile seizures. Aim of the research was to determine the level of parents‘ awareness, knowledge, and reactions to febrile seizures. *Methods:* We conducted a quantitative empirical study based on data collection. The data was acquired by means of a questionnaire, which was drawn up following a literature review. The research sample included 50 randomly selected parents. *Results:* Upon analyzing the results, we found that parents are relatively well acquainted with the occurrence of fever. Most are familiar with the different methods of reducing fever, but more than half of them start reducing it too early, which ultimately prevents the body from fending off the disease on its own. Our study focused on parents' familiarity with febrile seizures. The results indicate that only 10 % of parents participating in the study would turn their child on the side during a febrile seizure, and that only a small percentage would administer oral medications to their child during a febrile seizure. Based on the data acquired, we conclude that parents are well acquainted with the symptoms of febrile seizures and that they would immediately recognize its onset. Raising concern is the finding that 54 % of parents participating in the study claim that the outpatient department for children and schoolchildren failed to provide any information on febrile seizures. *Discussion and conclusion:* Fever and

its effects can be a source of anxiety for parents their entire childhood. Much of the available information on fever is non-fact-checked and incomplete, which may stir confusion among parents. Such information should be provided to parents by healthcare professionals, who are also professionally trained in health care education. Parents mostly trust healthcare professionals and are quick to rely on their guidance. In-depth knowledge and awareness can facilitate encounters with febrile seizures for parents, since it makes it easier for them to recognize the onset of the condition and reassures them such convulsions are not life-threatening. Healthcare professionals should be the most reliable source of information for parents; however, it is vital that healthcare professionals are able to provide the key information and choose the most suitable method of passing it on.

Keywords: fever, febrile seizures, parents

Introduction

The average (normal) body temperatures for children vary, depending on many factors, including the child's age, daily activity levels and given the time of the day. Infants tend to have higher temperatures than older children. In addition, fever is an important part of the body's defense against infection and viral disease. Thus most mild fevers do have a beneficial effect, it might happen that a child with a fever may become more uncomfortable as the temperature rises and it can make children feel foggy and tired (American Academy of Pediatrics, 2015). Moreover, increased body temperature is a symptom, certainly not a disease. It actually stimulates the body's immune and protective response, and at the same time it is an important part of the body's defence against infection or disease (Herlihy, D'Acremont, Burgess in Hamer, 2016). Like other forms of inflammation or infection, a fever enhances the innate immune defence and is beneficial for the organism as it strengthens the inflammatory response and the functioning of the overall immune system. In addition, it also reduces the formation of toxic substances and it plays a significant role in certain infections by inhibiting the production of certain microorganisms. It also supports the immune system's attempt to gain advantage over infectious agents, such as viruses and bacteria, it helps the immune cells to work better and makes the body less favourable as a host for replicating viruses and bacteria that are temperature sensitive. Also, it increases the rise of antibiotic resistance and improves the binding of iron into cells which inhibits the growth of bacteria (Strgar, 2019). It is not recommended to immediately or suddenly lower the elevated body temperature as a sudden and extreme change in temperature can have a negative effect on the course of the disease. Children with a healthy heart and a stable blood flow can easily tolerate even extreme temperatures as high as 40 ^{0}C. Adults should start to bring a child's fever down when their body temperature exceeds 38.5 ^{0}C. When there is a child, who is subject to febrile seizures (febrile convulsions), we should start lowering his elevated body

temperature already between 37.5 °C and 38 °C (Nase, 2016). Immediate action is needed in the case of a child having an epileptic seizure, when a child is in the shock-like state, after a surgery and if a child has a weakened heart. If the core temperature continues to rise dramatically, it can harm and thus deteriorate our cells (Pediatrična klinika Ljubljana, b. d.).

Young children between the ages of about 6 months and 6 years old are the most likely to experience febrile seizures, caused by elevated body temperature. The latter are most commonly observed in children between 14 and 18 months of age. The phenomenon of febrile seizures continues building up in the first few hours (American Academy of Pediatrics, 2017). Febrile seizures or convulsions are the most common form of cramps that occur in young children, affecting 2-5 % of them. They take place when fever is not lowered properly. These incidents may frighten parents as they are very similar to epileptic seizures (Capovilla, 2009). The fact is that febrile seizures might be life threatening for a child. Febrile seizures are particularly dangerous for children who suffer from associated cardiovascular diseases, given that elevated body temperature makes the heart beat faster (National Institute of Neurological Disorders and Stroke, 2020). In many situations, parents are the ones who are the first to see their child suffer from febrile seizures and at a time like this, knowledge is essential to help identify the first signs when febrile seizures occur and appropriate care needs to be given as soon as possible (National collaborating centre for women's and children's health, 2019). It often happens that parents' action is inadequate and useless as they are overwhelmed with emotions, worry and fear when they see, for the first time, their own child having a febrile convulsion. A lot of parents often state that it was the worst day ever to see their child completely unresponsive. The healthcare team is the one responsible for providing all relevant information to the parents of a child in a situation like this and at the same time offer them knowledge, practices and first aid measures regarding febrile convulsions. Immediate medical attention, further hospital treatment and medical observation are often necessary (Cantrell, 2011). When febrile seizures begin, there is nothing you can do to make the seizure stop. The most important thing, in a situation like this, is to stay calm and focused and to protect your child from possible bumps, falls and other injuries that might occur during a seizure (Victorio, 2020). The objective of the herewith research was to describe febrile seizures and the occurrence of fever and above all, to determine the level of parents' awareness with respect to febrile seizures. In addition, we were interested in finding out how parents deal with the child's fever and febrile seizures. Finally, we also wanted to know what information sources most contributed to their knowledge and about the quality of the information in their possession.

Methods

For the purpose of this research we decided to conduct a quantitative empirical study based on data collection. The data was acquired by means of a ques-

tionnaire, which was drawn up following a literature review and adopted accordingly to the needs of our research (Miklič, 2010). In order to carry out the survey, we contacted the head nurse of the pediatric clinic and she then invited us to an interview. Before conducting the interview, we had to obtain the consent from the Pediatric Division at the Community Medical Center Ilirska Bistrica. After being given all the necessary consents, we handed over the questionnaire, containing all the survey questions, to the medical team working at the children's department of pediatric medicine. The questionnaires were then distributed to parents during the children's preventive and curative examinations or treatment. For the purpose of theory elaboration, a descriptive method of work was adopted in order to perform a systematic domestic and foreign literature review. The data we were able to obtain from the questionnaire above mentioned were further processed with the help of the following computer tools: Microsoft Office Excell and Microsoft Office Word and the 1KA Application. The research sample included 50 randomly selected parents. Non-random sampling was the sampling technique used in order to make the sample selection based on factors other than just random chance. 16 % (8) of men and 84 % (42) of women took part in the survey as interviewees or survey respondents.

Results

Upon analyzing the results of the above mentioned questionnaire, we found that parents are relatively well acquainted with the occurrence of fever in a child. Moreover, it was discovered that there is only one parent (2 %) who lowers the fever incorrectly. Most are familiar with the different methods of reducing fever, but only 15 (30 %) of them use them in the most suitable or appropriate combination. For the treatment of fever in children, 26 (52 %) of parents participating in the study would administer rectal suppositories and syrup as fever reducers for children. Only 14 % of parents taking part in the survey in question would break their child's elevated body temperature safely with a lukewarm bath or shower and cold compresses or tepid sponging.

Furthermore, it was also established that more than half of them (50 %) start reducing fever too early, which ultimately prevents the body from fending off the disease on its own. In order to break the fever, many parents (22 %) decide to lower the child's elevated body temperature when it exceeds 38,0 °C. More than a quarter (28 %) of all surveyed parents know when it is best to start taking a fever down. Table 1 shows the parents' responses as far as the right time to start taking a child's fever down is concerned.

Table 1: The beginning of bringing a child's fever down

Body temperature (°C)	*Number*	*Share/Percentage*
I do not bring body temperature down	0	0
36,0–37,5	0	0

Body temperature (°C)	*Number*	*Share/Percentage*
37,5–38,0	25	50
38,0–38,5	11	22
Above 38,5	14	28
Total	50	100

By raising a question of how parents should respond to a child having febrile seizures, we wanted to establish the level of their awareness when it comes to taking action when the above phenomenon occurs. Multiple replies were possible. The answers we got from the parents are shown in table 1. The fact is that 32 parents (64 %) would call for a medical emergency in the event of febrile seizures. Only 5 parents (10 %) would do the right thing and thus turn their child on the side during a febrile seizure and only 3 (6 %) parents would let febrile seizures to stop themselves. Poorly informed parents (14 %) would administer oral medications to their child as soon as a febrile seizure takes place. 14 parents (28 %) would handle the situation in an improper way by trying to bring a child's fever with tepid sponging.

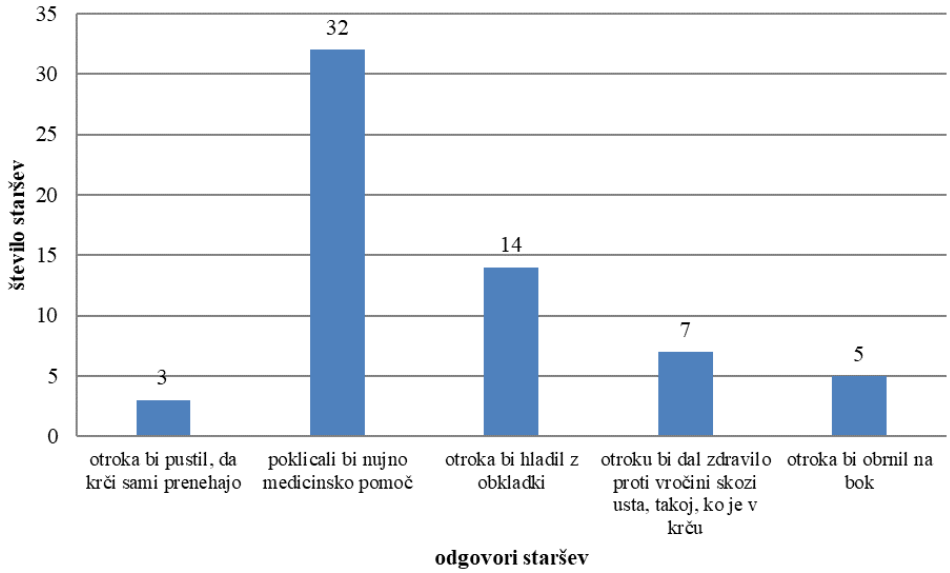

Figure 1: Measures taken in the event of a febrile seizure

Discussion

In the herewith research, a special focus was placed on knowledge and awareness regarding febrile seizures. Among parents, participating in the study, 10 % are the ones who have experienced their child having febrile seizure on one occasion, which was more than expected considering such a small case sample. From the data we had collected, we found that the majority of parents (64 %)

would in the event of febrile seizures – immediately call for emergency medical assistance, which is particularly necessary if febrile seizures occur for the first time (Neubauer, 2002). The results indicated that only 10 % of parents participating in the study would turn their child on the side during a febrile seizure, and this piece of information was not expected at all. In addition, we were also surprised to learn that 14 % of parents participating in the survey would administer oral medications to their child, in the child's mouth, during a febrile seizure. Such a conclusion suggests that 14 % of parents, taking part in the study in question, have no idea whatsoever what in fact a febrile seizure looks like and what happens during this phenomenon. Only 6 % of parents are not afraid if they found themselves in front of febrile seizures as they firmly believe they would take the right measures to help their child.

We also need to mention certain limitations as far as the research is concerned – a small sample size of the parents participating in the study. Our findings demonstrate that a sample of parents taking part in such a research should be extended in order to be able to improve the quality of the research work and to be able to gather more detailed findings. Another limitation is that we were not personally present, by not being made available to them while the questionnaire was being completed, for the interpretation of possible ambiguities when addressing the questionnaire. The fact is that there was a number of questions having multiple possible answers. However, it might have been better for each question to have only one possible answer. Finally, this study could be improved by comparing the answers we obtained with the answers given by other parents in several other institutions, perhaps also by making a comparison among various Slovene places and municipalities.

Conclusions

Parents are faced with fever their child is struggling with throughout their entire childhood. They often wonder what to do and how to handle the situation when their children have fever. Because they are anxious and concerned, in most cases parents turn to the child's doctor (pediatrician), whom they trust and rely on their guidance, so that they can raise questions to them regarding fever, since it is they who should already have the way of knowing and having all the answers to these questions. Parents should be aware of the fact that there is a lot of information that is easily available on the Internet about different medical conditions, as well as about fever and febrile seizures. However, much of the available information on fever is non-fact-checked and incomplete, which may stir confusion among parents. Such information should be provided to parents by healthcare professionals, who are professionally trained in health care education. Parents mostly trust healthcare professionals and are quick to rely on their guidance.

The fact is that healthcare professionals are professionally trained and thus qualified also in the field of health education. What is more, in addition to the theoretical knowledge that the healthcare professionals hand over to par-

ents, it might be also useful to introduce practical examples and talk about life events to parents as well. We believe that during preventive examinations of children, programmes of parenthood preparation and community nursing services when a registered nurse comes to visit her patients at home, it would be more than reasonable to address fever, and in particular the occurrence of febrile seizures.

In-depth knowledge and awareness can facilitate encounters with febrile seizures for parents, since it makes it easier for them to recognize the onset of the condition and at the same time it reassures them such convulsions are not life-threatening. Moreover, knowledge and subsequent recognition of the pathological phenomena can help parents reduce the level of stress, anxiety and fear they might experience in such circumstances. Therefore, we firmly believe that healthcare professionals should be the most reliable source of quality information for parents. However, it is vital that even healthcare professionals are able to provide the key information to a child's parents and at the same time choose the most suitable method of passing it on.

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